

#### **DETAILED ACTION**

Acknowledgement is made to Applicant's response filed 01/06/2010.

Claims 1-18, 22-83, and 85-87 are pending.

Claims 33, 36, 48, 49, 52, 54-60, 67-75, 81, and 82 are currently amended.

Claims 85-87 are newly added.

Claims 1-18, 22-83, and 85-87 are currently under consideration.

#### **Withdrawn Rejections**

The rejection of claims 1-18 and 22-83 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement is withdrawn.

The rejection of claims 33-49, 52, 54-60, 57-75, and 81-82 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is withdrawn in view of Applicant's amendment to the claims removing the term "comprising".

The rejection of claims 54 and 55 under 35 U.S.C. 103(a) as being unpatentable over Madrange nee Dermain et al (4,173,627) by itself or in view of JP 08187277, in further view of Morawsky et al (5,599,524) is withdrawn in view of Applicant's amendment to said claims, note specifically the change in dependency.

#### **Maintained Rejections and New Grounds of Rejection**

**-NOTE: New Grounds of Rejections are necessitated by amendments**

NOTE: The transitional phrase "consisting essentially of" is still being interpreted as "comprising" for the rejections presented below since the specification does not set forth the basic and novel characteristics of the instant invention. Specifically, while Applicant pointed to the specification and alleged the basic and novel characteristics, Applicant has not set forth how any additional components would negatively affect said alleged basic and novel characteristic. It is noted that MPEP 2111.03 states: "For the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." See, e.g., PPG, 156 F.3d at 1355, 48 USPQ2d at 1355."

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 1-18, 22-32, 36-53, 57-59, 61-62, 73-83, and 86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madrange nee Dermain et al (U.S. Patent number 4,173,627, Patent issued Nov. 6, 1979).**

Madrangne nee Dermain teaches a pressurized container containing a hair lacquer spray having reduced inflammability. The reference teaches the use of hair lacquers to maintain the hair in a proper shape by spraying the composition onto the hair (see column 1, lines 5-10). The liquid phase contains at least one of the following 1) **0-94% a lower alkanol, specifically ethanol**, propanol, isopropanol, or butanol; 2) 0-35% a solvent; 3) **0-25% a ketone diluent, an alkyl acetate diluent, specifically methyl acetate**, or a hydrocarbon particularly alkanes (see column 3, lines 35-51). The examples utilize ethanol. For instance, example 2 teaches 2g of a resin, 0.5g plasticizer, 20g bromotrifluoromethane, 10g trichloroethane, 25g methylene chloride, 10g butane/propane, and 32.5g ethanol. Note that methylene chloride is not designated a volatile organic compound. Thus, the VOC does not exceed 80%. Example 1 comprises

0.5g of a plasticizer, 2.5g of a resin, 15g bromotrifluoromethane, 5g Dibromo-1,1,2,2-tetrafluoroethane (propellant), 20g isobutane (the alkane diluent), and 22g ethanol.

The hair lacquer contains 10-85% of a propellant phase wherein the instant dimethyl ether, propane, and isobutane with bromotrifluoromethane are taught (see examples and column 2, lines 25-35). The composition incorporates the 0.5-10% instant resins, specifically vinyl acetate/crotonate/vinyl neodecanoate copolymer which can be neutralized with the instant neutralizing agents, specifically sodium hydroxide and 2-amino-2-methyl-1-propanol (see column 4, line 19 to column 5, line 6 and examples). The composition contains other additives, specifically perfumes and silicones (see claim 10).

Although, Madrange nee Dermain suggests a combination of ethanol and methyl acetate, there is not an *explicit* teaching.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to look to the guidance provided by Madrange nee Dermain and utilize ethanol and methyl acetate. One would have been motivated to do so since the general disclosure of Madrange nee Dermain suggests the combination of at least one of (a) lower alkanol, (b) a solvent, and (c) a ketone diluent such as methyl acetate for the liquid phase in a upper amount of 25% and it readily apparent to a skilled artisan that one can have a combination of at least two in the liquid phase. Moreover, Madrange nee Dermain teaches in example 1, a composition comprising 0.5g of a plasticizer, 2.5g of a resin, 15g bromotrifluoromethane, 5g Dibromo-1,1,2,2-tetrafluoroethane (propellant), 20g isobutane (the alkane diluent), and 22g ethanol. It

would have been obvious to a skilled artisan to substitute the isobutane diluent with the instant methyl acetate diluent since Madrange nee Dermain teaches the diluent may be selected from ketones, C3-C7 alkanes, i.e. isobutene, or an alkyl acetate such as methyl acetate.

With regard to the amount of neutralizer, although Madrange nee Dermain does not explicitly teach the concentration, it is the position of the Examiner that the concentration is an obvious parameter to a skilled artisan since the concentration would be dependent on the amount required to neutralize the resin. Thus, a skilled artisan would have been motivated to add a sufficient amount to yield a neutralized resin.

Lastly, it should be noted that the instant weight percents overlap with that of the prior art and it is the Examiner's position that the concentrations of each individual components are manipulatable parameters wherein a skilled artisan can readily optimize the concentrations of the prior art. With regard to claim 26, the instant claims recite *approximately* 30% of the methyl acetate and Madrange nee Dermain teaches a maximum limit of 25%, it is the examiner's position that 25% and instant *approximately* 35% are within an obvious range wherein a skilled artisan would have been motivated to manipulate the concentration through routine experimentation. Further, it is noted that applicant has not defined "approximately" and "about" to mean exactly. See MPEP 2111.01.

*Response to Arguments*

Applicant argues in the response filed 01/06/2010 that although Madrange discloses the use of ethanol or methyl acetate individually, it does not teach or suggest

both ethanol and methyl acetate in combination. Applicant's argument is not found persuasive since it would have been obvious to a skilled artisan to substitute the isobutane diluent with the instant methyl acetate diluent since Madrange nee Dermain teaches the diluent may be selected from ketones, C3-C7 alkanes, i.e. isobutene, or an alkyl acetate such as methyl acetate. Applicant argues that Madrange teaches away from the instant invention in that it allegedly discloses that both alkanols and alkyl acetates are not required components. Applicant's arguments are not found persuasive since Madrange also teaches that both alkanols and alkyl acetates can be present in the same composition. Furthermore, "[t]he prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed...." In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004). Applicant further argues that the presence of brominated flammability reducing agent would materially affect the basic and novel properties of the present invention. Applicant's statement is not found persuasive since Applicant is merely alleging that said brominated flammability reducing agent would materially affect the basic and novel properties of the invention without providing any evidence in support thereof. Applicant further alleges that the invention is not obvious in view of Applicant's superior and unexpected results. However, Applicant has not provided convincing evidence in support thereof. Therefore, the rejection is maintained.

**Claims 1-18, 22-32, 36-53, 57-59, 61-62, 73-83, and 86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madrange nee Dermain et al (U.S. Patent number 4,173,627, Patent issued Nov. 6, 1979) in view of JP 08187277 (Published Jul. 23, 1996).**

The teachings of Madrange nee Dermain is set forth above.

Madrage nee Dermain suggests a combination of ethanol and methyl acetate, however, Madrange nee Dermain fails to provide an *explicit* teaching of said combination.

JP 08187277 teaches a method of masking irritating alcohol odor, specifically ethanol, by utilizing methyl acetate or ethyl acetate in the amount of 0.1-10%. The masking action does not damage the properties of the lower alcohol and is utilized in cosmetics, drinks, and perfumes that contain lower alcohol. JP teaches the R represents a short alkyl chain (see Abstract).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to combine the teachings of Madrange nee Dermain and JP and utilize ethanol and methyl acetate. Firstly, Madrange nee Dermain suggests the combination of at least one of (a) lower alkanol, (b) a solvent, and (c) a ketone diluent for the liquid phase and it readily apparent to a skilled artisan that one can have a combination of at least two in the liquid phase. Thus, one would have been motivated to combine the lower alkanol with the Madrange's suggested ketone diluent (methyl acetate) in particular since JP teaches ethyl acetate or methyl acetate mask the odor of lower alcohols in a cosmetic composition. Therefore, one would have been motivated to

particularly select methyl acetate as the choice for component (c) to eliminate unpleasant odor produced by the ethanol since Madrange utilizes ethanol as preferred component (a) in all the examples. Further a skilled artisan would have expected similar results in using methyl acetate since Madrange clearly suggests methyl acetate as a suitable diluent in the composition and the examples teach the combination of all three components (a, b, c) in one composition.

With regard to the amount of neutralizer, although Madrange nee Dermain does not explicitly teach the concentration, it is the position of the examiner that the concentration is an obvious parameter to a skilled artisan since the concentration would be dependent on the amount required to neutralize the resin. Thus, a skilled artisan would have been motivated to add a sufficient amount to yield a neutralized resin. Lastly, it should be noted that the instant weight percents overlap with that of the prior art and it is the Examiner's position that the concentrations of each individual components are manipulatable parameters wherein a skilled artisan can readily optimize the concentrations of the prior art.

With regard to claim 26, the instant claims recite *approximately* 30% of the methyl acetate and Madrange nee Dermain teaches a maximum limit of 25%, it is the Examiner's position that 25% and instant *approximately* 35% are within an obvious range wherein a skilled artisan would have been motivated to manipulate the concentration through routine experimentation. Further, it is noted that applicant has not defined "approximately" and "about" to mean exactly. See MPEP 2111.01.

*Response to Arguments*

Applicant argues in the response filed 01/06/2010 nothing in Madrange or the JP reference would motivate one to utilize more than 5.5% methyl acetate. Applicant's argument is not found persuasive. First, it should be noted that the Examiner does not rely on JP to teach the weight percent of methyl acetate since Madrange teaches methyl acetate may be used in an amount of 0-25% of methyl acetate; the Examiner only relies on JP to provide the specific motivation to combine ethanol and methyl acetate. Additionally, the Examiner points out that JP teaches that if methyl acetate exceeds 10%, the solubility properties of the lower alcohol *may be* compromised (see page 5 of the English translation). It is noted that this is not conclusive. Further, JP does not state that if methyl acetate exceeds 10% then the masking capabilities of the alcohol may be compromised. This is a critical difference. JP functions to solubilize a fragrance and lipophilic components. Thus, JP contemplates the concentration of ethanol in relation to ethanol's ability to solubilize the fragrance component. However, Madrange does not require this property, i.e. Madrange's composition does not contain a perfume. Further, Madrange's composition has other solvents. Applicant further argues that the JP reference does not provide motivation to remove the brominated flame retardant of Madrange. Applicant's argument is not found persuasive since Applicant has merely alleged that said brominated flammability reducing agent would materially affect the basic and novel properties of the invention without providing any evidence in support thereof. Therefore, the removal thereof is not required.

**Claims 33-35, 56, 60, 63-72, 85, and 87 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madrange nee Dermain et al (U.S. Patent number 4,173,627, Patent issued Nov. 6, 1979) by itself or in view of JP 08187277 (Published Jul. 23, 1996), in further view of Chuang et al (U.S. Patent number 5,830,439, Patent issued Nov. 3, 1998).**

As set forth above, Madrange nee Dermain teaches a hair spray that contains a liquid phase comprising at least one of the following 1) 0-94% a lower alkanol, specifically ethanol, propanol, isopropanol, or butanol; 2) 0-35% a solvent; 3) 0-25% a ketone diluent, a alkyl acetate diluent, specifically methyl acetate, or a hydrocarbon (see column 3, lines 35-51). Madrange nee Dermain also teaches the use of difluoroalkane as a suitable propellant. JP 08187277 teaches the a method of masking irritating alcohol odor, specifically ethanol, by utilizing methyl acetate or ethyl acetate in the amount of 0.1-10%.

Madrange nee Dermain does not explicitly teach the incorporation of water or 1,1-difluoroethane into the composition.

Chuang et al teach an aerosol hair spray resin composition (see Abstract). Chuang teaches that the fixative hair resin is conventionally dissolved in an inert carrier such as a lower alcohol, for instance, ethanol, an aqueous ethanol solution, isopropanol, etc. Further, the aerosol contains conventional propellants such as 20/80 blend of propane/isobutane, dimethyl ether, difluoroethane, carbon dioxide, etc. (see column 4, lines 30-37).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to look to the teachings of Chuang et al and utilize ethanol that is not absolute (anhydrous) and utilize an aqueous ethanol solution. One would have been motivated to do so since Madrange nee Dermain does not teach that the ethanol must be absolute or denatured ethanol; thus it would be obvious to one of ordinary skill in the art at the time of the invention to use ethanol that is not anhydrous since Chuang teaches the conventional use of either. It should be noted that ethanol that is not anhydrous contains about 5% water and thus reads on the instant minimum concentration of water, i.e. 0.01%. Moreover, the manipulation of the amount of water as a co-solvent is a manipulatable parameter that is within the skill of an ordinary artisan.

Furthermore, one would have been motivated to look to Chuangl and utilize the instant difluoroethane since Chuang teaches this is a conventional propellant utilized in the art. Moreover, one would have expected similar results since Madrange nee Dermain also teaches the use of difluoroalkane as a suitable propellant.

*Response to Arguments*

Applicant argues in the response filed 01/06/2010 that in view of arguments above, specifically regarding the amounts of ethanol and methyl acetate, that Chaung does not cure the deficiencies of Madrange or the JP reference. Applicant's argument is not found persuasive in view of the responses to arguments set forth above. Specifically, Madrange and the JP reference render obvious the instantly claimed ranges for ethanol and methyl acetate. Further, Applicant argues that Chuang also fails to motivate one to eliminate the brominated flame retardant of Madrange. Applicant's

argument is not found persuasive since Applicant has merely alleged that said brominated flammability reducing agent would materially affect the basic and novel properties of the invention without providing any evidence in support thereof. Therefore, the removal thereof is not required.

**Claims 54-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madrange nee Dermain et al (U.S. Patent number 4,173,627, Patent issued Nov. 6, 1979) by itself or in view of JP 08187277 (Published Jul. 23, 1996), in further view of Morawsky et al (U.S. Patent number 5,599,524, Patent issued Feb. 4, 1997) and Chuang et al (U.S. Patent number 5,830,439, Patent issued Nov. 3, 1998).**

The teachings of Madrange nee Dermain, JP, and Chuang are set forth above.

Madrane nee Dermain does not specifically teach the instant fixatives.

Morawsky et al teach a low VOC hair spray wherein the composition contains conventional hair resins known in the art, including the instant polymer of claim 55 and the polymers taught in Madrange nee Dermain (vinyl acetate/crotonate/vinyl neodecanoate copolymer) (see column 2, lines 15-30).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to look to the teachings of Morawsky and utilize the instant polymer in the hair spray formulation of Madrange nee Dermain. One would have been motivated to do so since Morawsky teaches the instant polymer is a conventional hair resin utilized in the art. There would be a reasonable expectation of success since the

references are all directed to hair care compositions wherein Morawsky teaches several of the same hair resins as Madrange.

*Response to Arguments*

It is noted that the rejection of record over Madrange alone or in combination with the JP reference, in view of Morawsky has been withdrawn in view of Applicant's amendments to claims 54 and 55, specifically with regard to the dependency thereof. However, in view of the references still being relied upon, the arguments are being addressed below.

Applicant argues in the response filed 01/06/2010 Morawsky does not teach the hair fixative composition as presently claimed. Applicant further argues that though Morawsky teaches some of the same hair resins Morawsky does not teach a hair composition having both ethanol and methyl acetate in the claimed concentrations. Applicant's arguments have been fully considered and are not found persuasive. Specifically, Morawsky is not relied upon in a 102 manner, Morawsky is being relied upon to modify the teachings of Madrange alone or Madrange in view of the JP reference. It is noted that in the responses to arguments above, Applicant's arguments as to the teachings of Madrange and the JP reference have been addressed. Applicant further argues that Morawsky is not properly combinable with Madrange since Madrange teaches a high level of hydrocarbons and Morawsky teaches using a level of VOCs of less than 80 weight % and preferably less than 55 weight %. Applicant's argument is not found persuasive since it is noted that Morawsky is utilized as a secondary reference which teaches that the instant fixative polymers are well known in

the art for use in hair spray compositions. Therefore, the combination flows logically that one would utilize a well known component taught in the art for use in hair care compositions, specifically fixative polymers, to modify a known composition which is taught in the art for the same purpose, namely hair care.

***Pertinent Prior Art***

The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. US 6,464,960 teaches that the California Air Resources Board (CARB) defines VOC as substances with a vapor pressure of >0.1 mm Hg at 20 degree Celsius or as substances with 12 or less carbon atoms. Further, '960 teaches that on the basis of this definition, a number of substances, for example carbon dioxide, methylene chloride, acetone, methyl acetate, fluorochloro-carbons and fluorocarbons are excluded because of their low or zero photochemical ozone creation potential (POCP).

***Conclusion***

No claims allowed. All claims rejected. No claims objected.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TREVOR M. LOVE whose telephone number is (571)270-5259. The examiner can normally be reached on Monday-Thursday 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sharmila Landau can be reached on 571-272-0614. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TL

/David J Blanchard/  
Primary Examiner, Art Unit 1643